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State of Utah  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER QUALITY

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Division of Water Quality  
Department of Environmental Quality  
Salt Lake City, Utah 84114-4870

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MINERALS PROGRAM  
FILE COPY

October 23, 1991

Mr. Frank Wicks  
Vice President and General Manager  
Barrick Mercur Gold Mine  
P.O. Box 838  
Tooele, UT 84074

RECEIVED

OCT 30 1991

DIVISION OF  
OIL GAS & MINING

RE: April 1 and May 13, 1991 Tailings Pond  
Ground Water Discharge Permit  
Application: Notice of Deficiency.

Dear Mr. Wicks:

We have received your supplemental submittal of May 13, 1991 and a facsimile transmission of June 12, 1991, and have reviewed them in conjunction with the original permit application. After our review we have concluded that the application is incomplete and will require further effort. The Ground Water Quality Protection Regulations allow the Executive Secretary to issue a ground water quality discharge permit provided four conditions are met by the applicant. These conditions can be summarized as follows:

1. The application demonstrates that the applicable class TDS limits, ground water quality standards and protection levels can be met.
2. The monitoring plan, sampling and reporting requirements are adequate to determine compliance with applicable requirements.
3. The applicant utilizes treatment and discharge minimizing technology.
4. There is no current or anticipated impairment of present and future beneficial uses of ground water.

With respect to conditions one, two and four your permit application fails to demonstrate that these conditions can be met. This is largely because you have failed to provide adequate information on the local ground water hydrogeology, including local hydrostratigraphy, ground

Mr. Frank Wicks

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water flow directions and gradients. To facilitate the possible issuance of the ground water permit we recommend you develop, as a supplement to your permit application, a plan to further characterize the local hydrogeology. This plan will make it possible to design a monitoring system that would provide, within a reasonable degree of certainty, for the monitoring of the impacts of any discharge from your facility on the local ground water system(s). To assist you in this effort please refer to the enclosed permit application review notes by Loren Morton of my staff.

An alternative to further study of the local hydrogeology as discussed above would be for Barrick to propose a conservatively designed monitoring network including the addition of a significant number of additional monitoring wells to the current system which would negate the need for additional study. This may prove to be a more timely and economical way to obtain the minimum confidence level necessary to allow us to issue a Ground Water Quality Discharge Permit for the tailings pond site. At this point we should point out that we are somewhat skeptical that additional study will prove to be fruitful. However, whatever approach is taken needs to be established and your decision along with implementation details must be submitted to this office within 30 days of receipt of this letter.

Your proposal to construct a full-scale cyanide treatment system instead of up-scaling the liner technology could satisfy condition three. However, it doesn't appear from your letter that there is complete commitment to the long term use of the cyanide treatment process. You seem to feel that the tradeoff between liner design and pretreatment is a choice you can make at some future date. Unfortunately, your proposed approach does not establish a feasible long term solution under which a discharge permit would be issued. While we have your information in-house, there has not been any decision on its contents as of yet.

Once a satisfactory plan has been approved to either further study the local hydrogeology or proceed with installation of a compliance-monitoring network we can proceed with the issuance of a ground water permit. The implementation of the approved plan will become a scheduled and enforceable permit condition. Further compliance schedule items would include the development and implementation of a BAT for control of discharge from the tailings pond including a closure plan and a post closure monitoring plan. Because of the number of open issues it would be difficult to draft a permit for an entire five-year period since the operable life of the facility is dependent upon implementation of a BAT. Thus the initial permit term may be something less than five years. In any event the conditions of our August 12, 1991 correspondence still applies. Engineering design deficiencies in your permit application will be handled through the construction permit process. See the review notes for a preliminary list of permit application deficiencies with respect to engineering design.

Mr. Frank Wicks

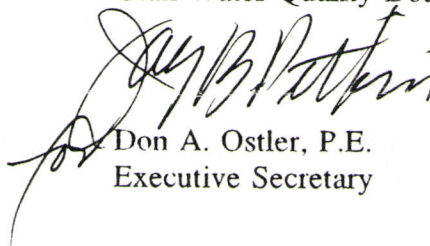
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To facilitate the resolution of the above issues, we feel it would be beneficial to meet at the earliest possible date. Please contact my office after you have had an opportunity to review this letter.

Sincerely,

Utah Water Quality Board

A handwritten signature in black ink, appearing to read "Don A. Ostler".

Don A. Ostler, P.E.  
Executive Secretary

Enclosure

DAO:DAF:rp

cc: Fred Nelson, Utah Attorney General's Office  
Dave Bird, Parson's Behle, Latimer  
Wayne Hedberg, DOGM  
Glade Shelley, Utah County Health Department  
Joe Trujillo, Tooele County Health Department

Q:Barrick2.nod

FILE:Ground Water